

JIAYI PAN

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Education

University of Michigan, Ann Arbor

Sep. 2021 – May 2023 (Expected)

*Bachelor of Computer Science - College of Engineering**Ann Arbor, Michigan, U.S.A.*

- **GPA:**4.0/4.0
- **Selected Courses:** Machine Learning, Introduction to Algorithmic Robotics, Data Structure and Algorithms, Introduction to Computer Organization, Foundations of Computer Science

Shanghai Jiao Tong University

Sep. 2019 – Aug. 2023 (Expected)

*Bachelor of Electrical and Computer Engineering - UM-SJTU Joint Institute**Shanghai, China*

- **GPA:**3.84/4.00 **Ranking:** 7/242
- **Selected Courses:** Programming and Intro Data Structures, Honor Mathematics Series, Honor Physics Series, Linear Algebra, Discrete Math, Probabilistic Methods.
- **Honors:** Fan Hsu-Chi Scholarship (2020, top 0.1%), Tang Jun Yuan Scholarship (2021, top 1%), The John Wu and Jane Sun Excellence Scholarship (2020, top 1%), Chun-Tsung Research Aid (2020), etc.

Publications

FairEdit: Preserving Fairness in Graph Neural Networks through Greedy Graph Editing

Jan. 2022

*Donald Loveland, Jiayi Pan, Aaresh Farrokh Bhatena, Yiyang Lu**Arxiv Preprint*

- A model-agnostic algorithm that performs efficient edge editing by leveraging gradient information of a fairness loss to promote fairness while achieving comparable accuracy with state-of-the-art methods.

Research Experience

Situated Language and Embodied Dialogue Lab

Sep. 2021 – Present

*Research Assistant | Advisor: Professor Joyce Chai**University of Michigan, Ann Arbor*

- Research on manner understanding.
- Member of the SEAGULL team in Amazon SimBot Challenge. Working on vision and semantic parsing module.

Advanced Network Lab

Apr 2020 – Present

*Research Assistant | Advisor: Professor Fan Wu**Shanghai Jiao Tong University, Shanghai*

- Developing a method to combine knowledge distillation, meta-learning, offline reinforcement learning with the RNN neural architecture search algorithm to make model architecture search more scalable and efficient, enabling personally-tuned models over different edge devices. Now working on experiments.
- Collaborated on a research project to implement model-agnostic meta-learning on federated learning framework to enable edge devices have personal models.

Selected Projects

Bot Localization | Python | Introduction to Algorithmic Robotics

Dec. 2021

- Comparison and analysis of Kalman Filter and Particle Filter's on robot localization task in a simulated environment.

Hush the Buzz | Python | 2021 The Mathematical Contest in Modeling

Feb. 2021

- A multi-modal approach to assign priorities to the witness reports on the spread of Asian Giant Hornet by utilizing natural language, vision and geographic information.
- Won MCM Honorable Mention Award.

Ray Tracer | Python | Solo Developer

January 2021

- A ray-tracing based renderer that supports diffuse illumination, specular lighting, shadows, reflection and refractions.

Modular Mars Rover | C++, Arduino | Introduction to Engineering

Sep. 2020

- A modular designed robotic car with slots to add various modules including camera, robotic arm, solar panels and Karaoke & Disco Lighting with a web-based control interface.

Teaching Experience

Honor Physics I

May 2021 – Aug. 2021

*Teaching Assistant**Shanghai Jiaotong University, Shanghai*

Selected Skills

Programming/ Hardware Design Languages: Python, C, C++, Scheme(Lisp), JavaScript, Verilog, X64 Assemble.

Computer Software & Libraries: Pytorch, Linux, git, LaTeX, MATLAB, Mathematica, React, Vivado.

Languages: Chinese (native), English (proficient, TOEFL: 104).

Selected Extracurricular Activities

Driving towards Sustainability with Shared Electric Mobility

Aug. 2021

Author

SUST2021(ELS)

- A sustainability assessment case study of the time-sharing electric cars on Shanghai Jiao Tong University campus.
- The abstract is accepted by International Conference on Sustainable Technology and Development for an oral presentation.

Wordsworth on Capitalism: Powerlessness

May 2021

Author

The Blue Tiger Review

- A literature review essay reconsidering the relationship between the Romantic poet, William Wordsworth, and the capitalist world.
- The essay is published on *The Blue Tiger Review*.

UM-SJTU JI Young Volunteers Association

Dec 2019 – Jan 2020

Volunteer Teacher

Dali, Yunnan

- Taught local students English and trained local teachers with multimedia teaching.